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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

CHEN, VIVIAN

ART UNIT

PAPER NUMBER

1773

12

DATE MAILED: 07/03/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/590,924

Applicant(s)

LIU ET AL.

Examiner

Vivian Chen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
- 4a) Of the above claim(s) 1-13 and 25-40 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 49-54 is/are allowed.
- 6) ☒ Claim(s) 14-24 and 41-46 is/are rejected.
- 7) ☒ Claim(s) 47 and 48 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 11.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The rejection under 35 U.S.C. 112, second paragraph, in paragraph 2 of the previous Office Action has been withdrawn in view of Applicant's arguments filed 3/26/2002.

Claim Rejections - 35 USC § 103

2. Claims 14-24, 41-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over WHEATLEY ET AL (US 6,049,419), in view of WHEATLEY ET AL (US 5,149,578), and in view of QUINN ET AL (US 4,020,141) *or* FUKUDA ET AL (US 4,985,538) *or* YOSHINAKA ET AL (US 4,996,291)

WHEATLEY ET AL discloses a birefringent multilayer polymeric film which selectively reflects light having a wavelength of 700 to 1200 nm (lines 57-68, col. 8) wherein the film comprises alternating layers of a first polymer such as PEN, coPEN, PET, or coPET and a second polymer such as PMMA (line 60, col. 11 to line 41, col. 16), wherein the film is heat-set to control shrinkage (lines 10-26, col. 24 as indicated in claims 14-15, 17, 20-21, 43-44), and wherein the film can be made shrinkable for security applications. However the reference does not explicitly disclose a film capable of shrinking to conform to a compound curved surface.

WHEATLEY ET AL '578 discloses that it is well known in the art to utilize a multilayer, heat-shrinkable, selectively reflective polymeric film to wrap articles with complex shapes, such as bottles and cap closures for safety and security applications.

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QUINN ET AL, FUKUDA ET AL, and YOSHINAKA ET AL each disclose that it is well known in the art to heat-set shrinkable packaging and bottle wrapping films in order to control and optimize the shrinkage characteristics of the film in order to produce appealing shrink-wrapped articles having little or no wrinkles. (QUINN ET AL, lines 61-66, col. 4; lines 35-57, col. 6; lines 5-10, col. 7; lines 39-42, col. 7; lines 20-23, col. 8) (FUKUDA ET AL, lines 1-11, col. 11, col. 4; lines 32-44, col. 7; lines 24-30, col. 9) (YOSHINAKA ET AL, line 40, col. 7 to line 20, col. 8)

It would have been obvious to one of ordinary skill of the art at the time the invention was made to adjust shrinkage properties of the film of WHEATLEY ET AL '419 by heat-setting as disclosed in QUINN ET AL, FUKUDA ET AL, and YOSHINAKA ET AL in order to produce wrinkle-free shrink films suitable for wrapping complex shapes as disclosed in WHEATLEY ET AL '578. One of ordinary skill in the art would have readily adjusted the heat-setting conditions of the film of WHEATLEY ET AL '419 to obtain preferential shrinkage in various directions as indicated in claim 24 to suit the particular shape to be wrapped, thereby avoiding wrinkles. It would have been obvious to incorporate a tamper-evident film into other conventional packaging articles such as between two layers of a blister package for security purposes as indicated in claim 16. It would have been obvious to incorporate layers having color gradations and/or light-absorbing dyes in the multilayer film as indicated in claim 41-42, 45-46 for various decorative or authentication purposes.

3. Claims 14-24, 41-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over WHEATLEY ET AL (US 5,149,578), in view of QUINN ET AL (US 4,020,141) *or* FUKUDA

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ET AL (US 4,985,538) *or* YOSHINAKA ET AL (US 4,996,291) and in view of WHEATLEY ET AL (US 6,049,419).

WHEATLEY ET AL '578 discloses a multilayer, heat-shrinkable, selectively reflective polymeric film suitable for shrink-wrapping complex shapes such as bottles and cap closures, wherein the film comprises alternating layers of two different polymers (lines 15-45, col. 3), and wherein the film reflects specific colors under specific conditions as recited in claims 14-15, 17, 20-21, 41-44. However the reference does not explicitly disclose a heat-set, birefringent film.

QUINN ET AL, FUKUDA ET AL, and YOSHINAKA ET AL each disclose that it is well known in the art to heat-set shrinkable packaging and bottle wrapping films in order to control and optimize the shrinkage characteristics of the film in order to produce appealing shrink-wrapped articles having little or no wrinkles. (QUINN ET AL, lines 61-66, col. 4; lines 35-57, col. 6; lines 5-10, col. 7; lines 39-42, col. 7; lines 20-23, col. 8) (FUKUDA ET AL, lines 1-11, col. 11, col. 4; lines 32-44, col. 7; lines 24-30, col. 9) (YOSHINAKA ET AL, line 40, col. 7 to line 20, col. 8)

WHEATLEY ET AL '419 discloses that it is well known in the art to use birefringent polymers to form selectively reflective films which reflect light having a wavelength of 700 to 1200 nm (lines 57-68, col. 8), wherein the film typically comprises alternating layers of a first polymer such as PEN, coPEN, PET, or coPET and a second polymer such as PMMA (line 60, col. 11 to line 41, col. 16) as recited in claims 18-19. The reference further discloses that such films can be heat-set to control shrinkage (lines 10-26, col. 24) and/or made shrinkable for security applications.

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It would have been obvious to one of ordinary skill of the art at the time the invention was made to utilize the polymers disclosed in WHEATLEY ET AL '419 to make tamper-evident packaging films as disclosed in WHEATLEY ET AL '578 in order to produce security films with a highly visible indicator. It also would have been obvious to use conventional film treatments such as heat-setting as disclosed in QUINN ET AL, FUKUDA ET AL, and YOSHINAKA ET AL in order to optimize the shrinkage characteristics in various directions so as to minimize undesirable wrinkles. It would have been obvious to incorporate a tamper-evident film into other conventional packaging articles such as between two layers of a blister package for security purposes as indicated in claim 16. It would have been obvious to incorporate layers having color gradations and/or light-absorbing dyes in the multilayer film as indicated in claim 41-42, 45-46 for various decorative or authentication purposes.

Response to Arguments

4. Applicant's arguments filed 4/26/2002 have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

5. Claims 49-54 are allowable over the prior art of record.

6. Claims 47-48 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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7. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record fails to disclose or teach laminates comprising a heat-shrinkable selectively reflective heat-set film sandwiched between two non-planar glazing material layers.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


SEIFRIED ET AL (US 3,187,075) and ISAKA ET AL (US 4,963,418) and UTSUMI ET AL (US 4,814,426) disclose heat-setting of shrinkable films.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vivian Chen whose telephone number is (703) 305-3551. The examiner can normally be reached on Monday from 8:30 AM to 6 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau, can be reached on (703) 308-2367. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310 (for non-after finals) and (703) 872-9311 (for after-finals).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

June 28, 2002


Vivian Chen
Primary Examiner
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